



## Effects of weather variability and air pollutants on emergency admissions for cardiovascular and cerebrovascular diseases

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### Abstract:

We examined the effect of ambient temperature, air pressure and air pollutants on daily emergency admissions by identifying the cause of admission for each type of stroke and cardiovascular disease using generalized linear Poisson regression models allowing for overdispersion, and controlling for seasonal and inter-annual variations, days of the week and public holidays, levels of influenza and respiratory syncytial viruses. Every 1°C decrease in mean temperature was associated with an increase in the daily number of emergency admissions by 7.83% (95% CI 2.06-13.25) for acute coronary syndrome (ACS) and heart failure, by 35.57% (95% CI 15.59-59.02) for intracerebral haemorrhage (ICH) and by 11.71% (95% CI 4.1-19.89) for cerebral infarction. An increase of emergency admissions due to ICH (3.25% (95% CI 0.94-5.51)), heart failure (3.56% (95% CI 1.09-5.96)) was observed at every 1 hPa decrease in air pressure from the previous days. We found stronger detrimental effect of cold on stroke than cardiovascular disease.

**Source:** <http://dx.doi.org/10.1080/09603123.2011.650155>

### Resource Description

#### Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Temperature

**Air Pollution:** Interaction with Temperature, Ozone, Particulate Matter, Other Air Pollution

**Air Pollution (other):** SO<sub>2</sub>, NO<sub>2</sub>

**Temperature:** Extreme Cold, Extreme Heat

#### Geographic Feature:

resource focuses on specific type of geography

Urban, Valley

#### Geographic Location:

resource focuses on specific location

Non-United States

# Climate Change and Human Health Literature Portal

**Non-United States:** Asia

**Asian Region/Country:** Other Asian Country

**Other Asian Country:** Japan

**Health Impact:** ☒

specification of health effect or disease related to climate change exposure

Cardiovascular Effect, Other Health Impact

**Cardiovascular Effect:** Other Cardiovascular Effect

**Cardiovascular Disease (other):** emergency admissions for: acute coronary syndrome, cardiac arrest, heart failure, subarachnoid hemorrhage, intracerebral hemorrhage, cerebral infarction, aortic dissection, ruptured aortic aneurysm

**Other Health Impact:** emergency department admissions

**Population of Concern:** A focus of content

**Population of Concern:** ☒

populations at particular risk or vulnerability to climate change impacts

Elderly

**Resource Type:** ☒

format or standard characteristic of resource

Research Article

**Timescale:** ☒

time period studied

Time Scale Unspecified